

Application No.: 10/531,112
Amendment Dated: June 12, 2006
Reply to Office Action of: March 10, 2006

MAT-8681US

Amendments to the Drawings:

The attached sheets of drawings includes changes to Figures 13, 15 and 17. These sheets replace the original sheets.

Attachment

Remarks/Arguments:

Claims 1 and 3-10 have been amended. Claim 2 has been cancelled. No new matter has been added. Claims 1 and 3-10 are pending.

Support for the amendments of claims 1 and 8 can be found, for example, p.15, lines 11-14; p.16, lines 19-29; and Figs. 2 and 3. Support for the amendment of claim 10 can be found, for example, p.36, lines 20-27; p.38, lines 8-22; p.41, lines 17-p.43, line 21; and Figs. 12, 13 and 17. Claims 1 and 3-10 have also been amended to clarify the language.

Figures 13, 15 and 17 have been amended to correct typographical errors in the figure elements. No new matter has been added. Support for the amendment to Figure 13 can be found on p.39, lines 17-24; for Figure 15 on p.37, lines 18-19; and for Fig. 17 on p.42, line 24-p.43, line 24 and p.44, lines 14-16.

Applicants note that the Office Action Summary does not appear to examine claims 9 and 10. Claims 9 and 10 were added in the Preliminary Amendment filed on April 13, 2005. Applicants respectfully request that the Examiner acknowledge that claims 9 and 10 are pending.

Claims 1 and 4-8 have been rejected under 35 U.S.C. §102(e) as being anticipated by Dent (U.S. Pat. No. 6,996,380). Although p. 2 of the Office Action cites that claims 4-8 are rejected, Applicants believe that this is an inadvertent error. The Examiner, on page 3, lines 4-9, states that claim 4 teaches "reference symbol producing means." Claim 4, however, does not include this feature. This feature, instead, is found in claim 5. Similarly, page 3, lines 10-12 of the Office Action, although referring to claim 5, cites features found in claim 6. Similarly, on page 3, lines 13-16, although referring to claim 6, cites features in claim 7. Furthermore, page 3, line 17 - p. 4, line 14, although referring to claim 7, appears to cite features in claims 8 and 9. Finally, page 4, line 15 - page 5, line 15, although referring to claim 8, appears to cite features in claim 10. Applicants request that the Examiner clarify the rejection.

In order to respond to the Office Action, Applicants have assumed that claims 1 and 5-10 have been rejected as being anticipated by Dent. It is respectfully submitted, however, that these claims are now patentable over the cited art for the reasons set forth below.

Claim 1, as amended, includes features neither disclosed or suggested by the cited art, namely:

... the vector control means produces the plurality of N dimensional vectors based on a propagation parameter corresponding to a propagation channel between the first radio station and the second radio station independent of other propagation channels ...

Dent discloses in Figure 1, a wireless communication network including a transmit processor 18 that uses knowledge of multipath signals between base stations 12A - 12C and receivers R1 - R3 to generate transmit signals for each receiver R1 - R3 (col. 9, lines 52-65). A channel estimation matrix is generated that includes propagation channels between the j^{TH} wireless receiver and the k^{TH} transmitter (col. 5, line 59 - col. 6, line 34). Thus, Dent uses propagation channels between all antennas and receivers in order to transmit a signal to the correct receiver. Dent does not disclose or suggest Applicants' claimed feature of "the vector control means produces the plurality of N dimensional vectors based on a propagation parameter corresponding to a propagation channel between the first radio station and the second radio station independent of other propagation channels" (emphasis added). These features are neither disclosed nor suggested by Dent. Thus, Dent does not include all of the features of amended claim 1. Accordingly, allowance of claim 1 is respectfully requested.

Claims 5-7 include all of the features of claim 1 from which they depend. Accordingly, claims 5-7 are also patentable over the cited art.

Claim 8 has been amended. Although not identical to claim 1, claim 8 includes features similar to amended claim 1 which are not disclosed or suggested in the cited art. Namely, "the vector control means produces the plurality of N dimensional vectors based on a propagation parameter corresponding to a

propagation channel between the first radio station and the second radio station independent of other propagation channels." As discussed above, these features are neither disclosed nor suggested by Dent. Thus, Dent does not include all of the features of claim 8. Accordingly, allowance of claim 8 is respectfully requested.

Claim 9 includes all of the features of claim 8 from which it depends. Accordingly, claim 9 is also patentable over the cited art.

Claim 10 has been amended. Although not identical to claim 1, claim 10 includes features similar to claim 1. Namely, "producing a channel information symbol sequence ... containing a propagation parameter corresponding to a propagation channel between the second radio station and the first radio station independent of other propagation channels." These features are neither disclosed nor suggested by Dent. Thus, Dent does not include all of the features of claim 10. Accordingly, allowance of claim 10 is respectfully requested.

Claim 2 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Dent and further in view of Ramesh (U.S. Pat. No. 6,463,105). Although paragraph 4 of the Office Action stated that claim 2 is rejected, Applicants believe that claim 2 was inadvertently included because claim 2 does not disclose "singular value decomposition." Furthermore, Ramesh, in col. 2, lines 42-53, relates to eigen-value decomposition. The rejection of claim 2 is moot because claim 2 has been cancelled. However, it appears that paragraph 4 relates to the rejection of claim 4 which does include the feature "eigen-value decomposition." Applicants respectfully request that the Examiner clarify the rejection in paragraph 4. In order to respond to the Office Action, Applicants have assumed the rejection in paragraph 4 as being related to claim 4. Claim 4, however, also includes all of the features of claim 1 from which it depends. Ramesh does not make up for the features that are lacking in Dent. Accordingly, claim 4 is also patentable over the cited art.

Claim 3 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Dent in view of Lei et al. (U.S. Pat. No. 6,850,741). Although paragraph 5 of the Office Action cites that claim 3 includes "eigen-value decomposition," Applicants

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believe this is an inadvertent error because claim 3 includes the feature "singular-value decomposition" and because Lei in col. 2, lines 35-50, relate to singular-value decomposition. This claim, however, also includes all of the features of claim 1 from which it depends. Lei et al. do make up for the features that are lacking in Dent. Accordingly, claim 3 is also patentable over the cited art.

In view of the amendments and arguments set forth above, the above identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,


Lawrence E. Ashery, Reg. No. 34,515
Attorney for Applicants

LEA/DG/fp/ds

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Attachments: Figures 13, 15, 17 (3 sheets)

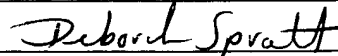
P.O. Box 980
Valley Forge, PA 19482-0980
(610) 407-0700

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June 12, 2006

Deborah Spratt



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